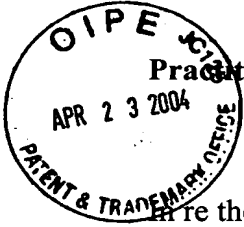


04-26-04



Practitioner's Docket No.: 791\_237

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Re the application of: Toshikatsu KASHIWAYA

Ser. No.: 10/797,991

Filed: March 11, 2004

Confirmation No.: Not Assigned

For: **PIEZOELECTRIC/ELECTROSTRICTIVE FILM TYPE DEVICE AND  
PIEZOELECTRIC/ELECTROSTRICTIVE PORCELAIN COMPOSITION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

"EXPRESS MAIL" mailing label number EL 994436030 US.

I hereby certify that this paper or fee is being deposited on *April 23, 2004* with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 addressed to: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*Elizabeth A. VanAntwerp*  
Elizabeth A. VanAntwerp

**INFORMATION DISCLOSURE STATEMENT**

Sir:

Pursuant to 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached Form PTO-1449. Copies of each of the references listed on Form PTO-1449 are attached.

In compliance with the concise explanation requirement under 37 CFR § 1.98(a)(3) for foreign language documents, References AA-AC are disclosed at pages 2 and 3, paragraphs [0003] and [0005], of the present specification.

References AD and AE are discussed on the attached sheet as authored by applicants' Japanese representative.

The above information is presented so that the Patent and Trademark Office may, in the first instance, determine any materiality thereof to the claimed invention. It is respectfully requested that the information be expressly considered during the prosecution of

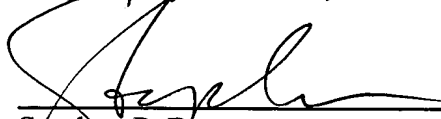


- 2 -

this application, and that these references be made of record therein and appear among the  
"References Cited" on any patent to issue therefrom.

The Commissioner is hereby authorized to charge any additional fees associated with  
this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

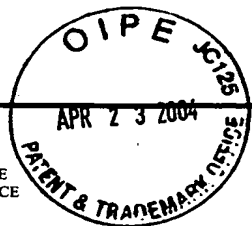
  
\_\_\_\_\_  
Stephen P. Burr  
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April 23, 2004  
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Form PTO-1449  US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>		
<b>Application Number</b>		10/797,991				
<b>Filing Date</b>		March 11, 2004				
<b>First Named Inventor</b>		Toshikatsu KASHIWAYA				
<b>Art Unit</b>						
<b>Examiner Name</b>						
<b>Confirmation No.</b>						
<b>Sheet</b>	1	of	1	<b>Attorney Docket No.</b>		791_237

#### U.S. PATENT DOCUMENTS

Exam. Initial		Document Number	Date	Name	Our Docket No.	Class	Sub Class	Filing Date

#### U.S. COPENDING APPLICATIONS

Exam. Initial		Application/ Publication Number	Filing/ Publication Date	Inventor Name	Our Docket No.	Class	Sub Class

#### FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Sub Class	Translation	Abstract
	AA	44-17103	07-28-1969	JP				
	AB	45-8145	03-23-1970	JP				
	AC	11-29357	02-02-1999	JP			JPO Machine Translation	✓
	AD	06-191941	07-12-1994	JP			JPO Machine Translation	✓
	AE	2001-181033	07-03-2001	JP			JPO Machine Translation	✓

#### OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages etc.)


<b>Examiner:</b>		<b>Date Considered:</b>	
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



## Information Disclosure Statement

### 1. Japanese Patent Application Laid-Open H6-191941

$\text{SiO}_2$  is added to  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3\text{-PbZrO}_3$ , which is related to Claim 15 of the present invention. However, no relation between an amount of Si and an amount of Ni+Mg is specified in this application. By specifying amounts of Si and Ni+Mg, densification at a low temperature becomes possible, and high piezoelectric property can be obtained.

### 2. Japanese Patent Application Laid-Open 2001-181033

NiO and  $\text{SiO}_2$  are added to  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-PbTiO}_3\text{-PbZrO}_3$ , which is related to Claim 11 of the present invention. However, no relation between an amount of Si and an amount of Ni+Mg is specified in this application. By specifying amounts of Si and Ni+Mg, densification at a low temperature becomes possible, and high piezoelectric property can be obtained.